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LAND RIGHTS AND RENTAL SYSTEMS: IMPLICATIONS FOR MANAGEMENT OF CONFLICTS RELATED TO LAND IN SAWAH-BASED RICE PRODUCTION SYSTEMS IN NIGERIA

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ABSTRACT This study examined the land rights and rental systems followed by sawah rice farmers in Nigeria. The study was conducted in six states in Nigeria that use sawah rice technology: Kwara, Ondo, Niger, Ebonyi, Kaduna, and Abuja, which is the Federal Capital Territory. A total of 124 sawah farmers were selected for participation based on their involvement in sawah-based rice production. Data used in this study were collected from October 2009 to January 2011 in all the sawah sites in Nigeria. *T*-test was used to determine significant differences in the yields and farm sizes of landlord and tenant farmers. The land tenure system practiced in the lowlands is governed primarily by inheritance (71.8%), with temporary arrangements made through rentals (37.1%). Tenants pay ₦12,000 $ha^{-1}year^{-1}$ in land-for-cash agreements and 5% of the total yield of rice in land-for-paddy agreements. Generally, agreements between landlords and tenants are verbal, binding, and honored by both parties. Land conflicts occur when either party breaches the agreement and always result in the landlords taking over the land. Significant differences in the farm sizes ($t = 3.424$ $P_{<0.05} = 0.02$) and yields ($t = 3.167$ $P_{<0.05} = 0.01$) of landlord and tenant farmers were found. The findings of the study indicate the importance of secured land tenure, which affects the practice of sawah and the productivity of rice farming. Sustaining and improving sawah rice production in the study area will require addressing the land tenure issues of both landlords and tenants.

Key Words: Conflict management; Land rental; Land rights; Nigeria; Sawah.

INTRODUCTION

Due to the diversity of the agro-ecological production systems in Nigeria, the food sector of Nigerian agriculture includes a large array of staple crops. Among these crops, rice has risen to a position of greatest importance. As far back as the mid-1970s, rice consumption in Nigeria was increasing tremendously, at about 10% per annum, due to changing consumer preferences and increases in the population. Domestic production has never been able to meet the demand, leading to considerable imports, which, as of 2011, accounted for about 1,000,000 metric tonnes yearly, with Nigeria spending more than US$300 million on rice imports annually. The demand for rice has been increasing at a much faster rate in Nigeria than in other West African countries since the mid-1970s (Food and Agriculture Organization of the United Nations—FAO, 2001). According to the FAO (2001), Nigeria had the lowest per-capita annual consumption of rice in the sub-region (average of 3 kg) during the 1960s. Since then, Nigerian per-capita consumption levels have grown significantly, at 7.3% per annum. Consequently, per-capita consumption during the 1980s averaged 18 kg and reached 22 kg in 1995–1999. Average growth rates in Nigerian per-capita rice consumption are likely to continue for years to come.

Rice is cultivated in virtually all the agro-ecological zones in Nigeria. Despite this, Nigeria's rice production capacity is still far below the demand. The average yield of upland and lowland rain-fed rice in Nigeria is 1.8 ton/ha, whereas that of land with irrigation systems is 3.0 ton/ha (PCU, 2002). This is very low when compared with 3.0 ton/ha from upland and lowland systems and 7.0 ton/ha from irrigated land in other countries (WARDA & NISER, 2001). The sawah rice production system was introduced to the inland valley of Nigeria to increase the yield of rice because it can overcome soil fertility problems through geological fertilization processes (Oladele & Wakatsuki, 2008). Sawah refers to a leveled rice field surrounded by banks with inlets and outlets for irrigation and drainage. The basic elements of the sawah system include improved irrigated rice basins, seedbed preparation, transplanting and spacing of seedlings, fertilizer application, and, most importantly, water management. According to Nwite et al. (2011), sawah lowland farming with small-scale irrigation schemes for integrated watershed management constitutes the most promising strategy for addressing soil fertility problems and restoring the degraded watershed in the tropical environment for increased and sustainable food production. The sawah system utilizes the inland valleys, which are reported to be high in fertility, through appropriate water management. According to Nwite et al. (2011), sawah remains the prerequisite technology for restoring and conserving the degraded watershed in the tropical environment for increased and sustainable food production and ultimately in pursuit of the much-awaited Green Revolution (GR) in West Africa.

One of the major constraints faced by sawah rice production in Nigeria is the problem of land tenure (Oladele & Wakatsuki, 2009). Hart (1982) described the land tenure situation in Africa as confusing and conflict-ridden. Constraints relating to insecure land tenure have continued to discourage Africans from making needed agricultural investments (CAPRI, 2005). Secure access and rights to land

are fundamental to the achievement of food security and sustainable rural development. Insecure and limited access to land has contributed to poverty, which in turn has provided the ideal circumstances for conflict (Huggins & Pottierl, 2011). Therefore, understanding the dynamics associated with different types of land rights and tenure is crucial to any agricultural development effort. Lack of assurance of land rights for a long period of time and unequal land distribution hamper agricultural development by limiting land access to many needy Africans, relegating them to the status of land tenants and therefore opening the door to conflict among people.

For sawah technology to succeed and contribute to the realization of Green Revolution in Sub-Saharan Africa (SSA) and particularly Nigeria, it is essential that issues related to the land tenure regime and land rental system are addressed. Land for sawah development must be secured for a long period of time to accommodate the construction of structures such as bunds, canals, and dykes. Improvement of the rice-growing environment through the promotion of lowland sawah technology will be a mirage if land tenure, as it relates to the landlord-tenant relationship, is not addressed. This requires research to examine land rights, the rental system, land conflicts, and conflict-management strategies in Nigeria with a view to improving the use of sawah technology in rice production. This study examined the land rights regime and land rental system as it relates to the development of sawah technology in Nigeria. The specific objectives of the study are to examine: 1) the rental system in sawah production areas in Nigeria; 2) the nature of the land rights regime among landlords and tenants and the land-related constraints faced by tenants farmers; 3) conflict management in the landlord-tenant relationship as it relates to sawah development; and 4) significant differences in farm sizes and the yields of landlord and tenant sawah farmers.

LAND RIGHTS REGIME IN NIGERIA

The land tenure system in Nigeria is based on the Land Use Decree (Act) of 1978, which is used to administer and control land use in the country (Fabiyi, 1984). The Land Use Decree of 1978 reflects the idea that it is in the public interest that the rights of all Nigerians to the land of Nigeria be asserted and preserved by law. The objectives of the decree are to facilitate the rapid economic and social transformation of the country through a rationalization of land use, to enable state governments to bring about proper control and administration of land for the benefit of their people, to remove a main cause of social and economic inequality, and to provide an incentive to development by providing easy access to land for the state and the people. The objectives of the Land Use Decree remain largely unfulfilled several years after its enactment, and titles to land appear to be more insecure now than ever. Indeed, land is less available to the ordinary Nigerian today than it was prior to the Decree, thereby relegating most citizens to an inevitable state of perpetual tenancy.

Land regimes are often categorized as communal, private (individuals), and state (public) (Feder & Feeny, 1991; IFAD, 1995; GTZ, 1998; FAO, 2002).

Communal: A right of commons, according to which each member has a right to independently use the holdings of the community, may exist within a community (Feder & Feeny, 1991). For example, members of a community may have the right to graze cattle on a common pasture. Communal lands also play a significant role in the distribution of land and resources among community members to supplement their daily needs (Harada, 2005).

Private: This form of land regime consists of the assignment of rights to a private party who may be an individual, a married couple, a group of people, or a corporate body such as a commercial entity or non-profit organization. For example, individual families may have exclusive rights to residential parcels, agricultural parcels, and certain trees within a community. Without the consent of those who hold the rights, other members of the community can be excluded from using these resources.

State: Under state property regimes, stewardship of land and natural resources is vested in the state. This means the state owns, manages, and is entitled to income generated from the resource (IFAD, 1995). Property rights are assigned to an authority in the public sector. For example, forestland in some countries may fall under the mandate of the state, whether at a central or decentralized level of government.

Customary land tenure systems in Nigeria are related to family and inheritance systems and are based on the concept of group ownership of absolute rights to land. Each member of the group does not possess land rights on an individual basis; instead, each member possesses these rights jointly with the other members of the community (Fabusoro et al., 2008). Whereas each person has customary rights to land, such rights are usually limited only to the use and transfer through inheritance or renting. Customary land rights establish the basis for access to land resources and the opportunity to use land for productive purposes (Famoriyo, 1980). Famoriyo (1979) noted that three principles have been observed under the customary rules of tenure: 1) each individual member of a landholding family is entitled to a portion of land, enough to feed him or herself and the members of his or her family; 2) no member of the community can dispossess another of his or her stake in family land; and 3) no one can alienate family members' interests in family land without the knowledge and consent of those members. Tenure systems under customary law vary but, in principle, are restricted to usufruct rights. An individual has usufruct rights to the land farmed by his or her lineage or in his or her community area. Individuals can possess land as long as they use it for the benefit of their family or society, can pass the land on to an heir, can pledge its use to satisfy a debt, but cannot sell or mortgage it. The right of disposal belongs only to the community, which, acting through traditional authorities, exercises this right in accordance with customary law. Land rights may be perpetual, for certain limited periods, or solely for the lifetime of the holder (Poguchi, 1962). Although titles to land are generally unrecorded, family and individual rights are usually well known and accepted within the community (Fabiyi & Adegboye, 1977).

Generally, either through communal, state, or private regimes, rights to land differ based on the aforementioned situations. According to Payne (1997) and the FAO (2002), land rights can take the following forms:

Use rights: Rights to use the land for grazing, growing subsistence crops, gathering minor forestry products, and so on. Poor individuals in a community have only use rights.

Access rights: The ease with which communities, households, and individuals acquire land for livelihood-related activities and shelter.

Control rights: The right to make decisions about how the land should be used, including deciding which crops should be planted and how to benefit financially from the sale of crops and so on.

Transfer rights: The right to sell or mortgage the land, to convey the land to others through intra-community reallocations, to transmit the land to heirs through inheritance, and to reallocate use and control rights.

These categories serve as the conceptual framework for land rights used in this study.

STUDY AREA

This study was conducted in Nigeria, which has a total land area of 923,768 km^2 with varied climate zones. The far south is defined by its tropical rainforest climate, where the annual rainfall is 1,520 to 2,030 mm. Approximately 70% of the population engages in agricultural production at a subsistence level. The study was conducted in Bida (Niger State), Zaria (Kaduna State), Akure (Ondo State), Ilorin (Kwara State), Abuja (the Federal Capital Territory—FCT), and Abakaliki (Ebonyi State), areas in which sawah rice production technology is being promoted. The specific sites for data collection were Ejeti, Etsusegi, Epagi, Baba, Nasarafu, Shabamaliki, Ajakpe, Sheshibikun, and Etundandan in Bida; Nakala and Millennium Village Pampaida in Zaria; Aule and Ijare in Akure; Ilota, Idofian, Elerinjare, and Ajase-Epo in Ilorin; Wako in Abuja and Abakaliki.

Bida

Bida is located in Niger State in the central part of Nigeria. Bida is the second largest city in Niger State, with an estimated population of 178,840 (National Population Commission—NPC of Nigeria, 2006); it is located on latitude 9° 06 N and longitude 6° 01 E and lies 173 m above sea level. Bida is located on dry and arid land. The major ethnic group is the Nupe. It is well known for its traditional crafts, notably brass and copper goblets, other metal products, glass beads and bangles, raffia hats and mats, and locally dyed cotton and silk cloth. Bida is also known for the production of rice cultivated in the floodplains and the inland valley in Niger State; hence the National Cereal Research Institute (NCRI) is

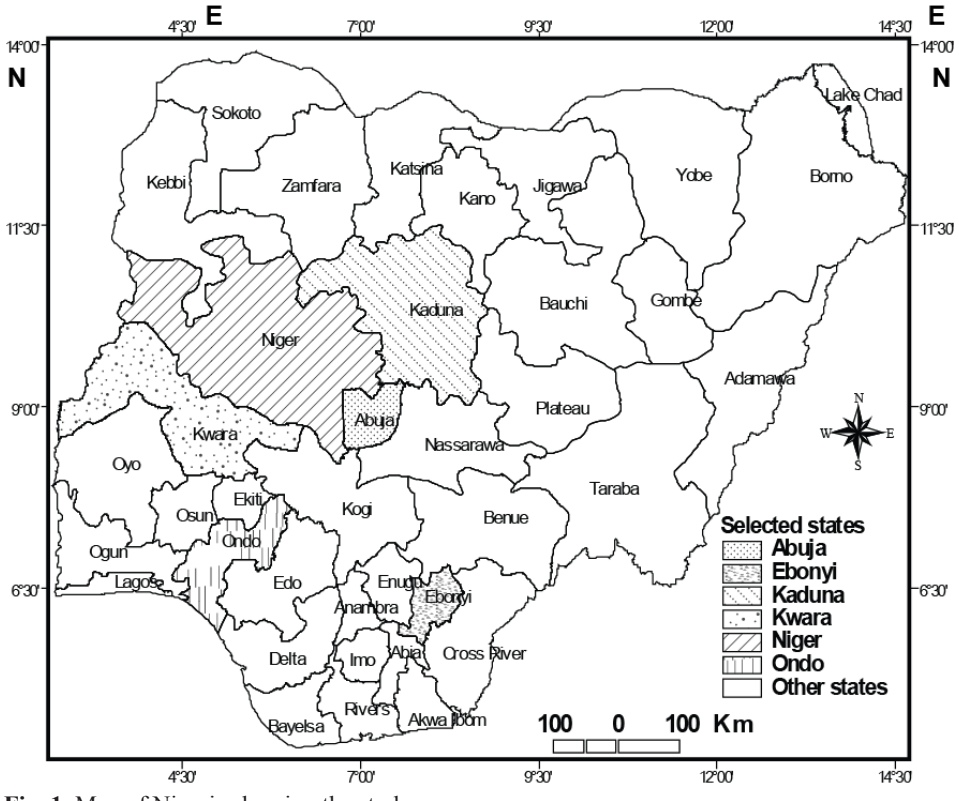

Fig. 1. Map of Nigeria showing the study area.

located in Bida. Farmers in Bida also produce yams, sorghum, millet, cotton, peanuts (groundnuts), sugarcane, and fruits. The fertility of the soil and availability of water have made Ejeti, Etsusegi, Epagi, Baba, Nasarafu, Shabamaliki, Sheshibikun, and Etundandan more suitable sites for sawah development.

Zaria

Zaria, located in Kaduna State, on latitude 11° 07 N and longitude 7° 43 E is a medium-sized city with an estimated population of 547,000 (NPC of Nigeria, 2006) and a growth rate of 3.5% per annum. The inhabitants of Zaria are primarily members of the Hausa nation. Agriculture is by far the most important activity of the working population. Approximately 40–75% of Zaria's working population derive their principal means of livelihood from agriculture. Agricultural activity in Zaria can be divided into two types: rain-fed and irrigated farming. Food crops grown include guinea corn, rice, maize and millet, and cash crops include cotton, groundnuts, and tobacco. Zaria, which has a tropical climate with a mean total annual rainfall of approximately 1,100 mm, lies in the natural vegetation zone consisting primarily of woodland known as Northern Guinea Savannah. Soil in Zaria mostly belongs to the class of leached, ferruginous tropical soils, with material that consists of several feet of deposited silt and sand overlying sedimentary decom-

posed rock. In addition to agriculture, the people of Zaria are also employed by the textile industry.

Akure

Akure, the capital city of Ondo State, is located on latitude 7° 25 N and longitude 5° 20 E. The people of Akure belong to Nigeria's Yoruba ethnic group. It has a population of about 500,000 and is characterized by a warm humid tropical climate, with an average rainfall of about 1,500 mm per annum. Annual average temperatures range between 21.4°C and 31.1°C, and its mean annual relative humidity is about 77.1%. The vegetation in this area is of the tropical rainforest type. Akure lies on a relatively flat plain within the Western Nigerian plain and is about 250 m above sea level. Akure has a relatively dry season from November to March and a rainy season from April to October. Although cocoa is by far the most important local commercial crop, cotton, teak, and palm produce are also cultivated for export. Arable crops grown include yams, cassava, maize, bananas, rice, okra, and pumpkins.

Ilorin

Ilorin, the capital city of Kwara State, is located between latitudes 8° 24 N and 8° 36 N and longitudes 4° 10 E and 4° 36 E and occupies an area of about 100 km^2. It is dominated by the Yoruba people from southwestern Nigeria and is situated at a strategic point between the densely populated southwestern and the sparsely populated middle belt of Nigeria. Ilorin is located in a traditional zone between the deciduous woodland of the south and the dry savannah of the north of Nigeria. The climate of Ilorin is characterized by both wet and dry seasons. The temperature of Ilorin ranges from 33°C to 34°C from November to January and from 34°C to 53°C from February to April. The total annual rainfall in the area is about 1,200 mm. The soil is loamy and supports the growth of cereal crops. Agricultural crops grown include groundnuts, yams, cassava, guinea-corn, rice, maize, beans, and vegetables. The availability of lowland with fertile soil made Ilota, Idofian, Elerinjare, and Ajase-Epo suitable for the adoption of sawah technology.

Abuja

Abuja, the Federal Capital Territory (FCT), is located between latitudes 8° 25 N and 9° 25 N of the equator and longitudes 6° 45 E and 7° 45 E. The territory covers an area of 8,000 km^2 and is bordered by four states: Niger to the West, Nassarawa to the East, Kogi to the South, and Kaduna to the North. Abuja has a population of 1,405,201 (NPC of Nigeria, 2006). The inhabitants are traditionally members of the Gwari ethnic nationality, but people from all over Nigeria now reside in this territory. Migrant farmers from Benue and Kogi are also found in the territory. Abuja falls within the Guinean forest-savanna zone of the West African sub-region and features a tropical wet and dry climate. A number of local soils have been identified within Abuja, and these include alluvial soils, luvisols, and entisols. The rainy season begins in April and ends in October, with a rainfall of about 1,500 mm during the rainy season. The sawah site in Abuja is located

in Wako, a village in Abuja. Wako village is a host community for both the indigenous Gwari and the migrant farmers from neighboring Benue and Kogi states. The accessibility to the Nigerian seat of power in Abuja, labor from both native and migrant farmers, and the perennial water source in Wako made it suitable for sawah development.

Abakaliki

Abakaliki is the capital city of Ebonyi State in southeastern Nigeria located on latitude 6° 20 N and longitude 8° 06 E. The inhabitants are primarily members of the Igbo nation. Abakaliki is made up of three clans: the Ezza Ezekuna, Izzi, and Ikwo and has an estimated population of 141,438. Abakaliki, which lies at the intersection of Enugu, Afikpo, and Ogoja Roads, is commonly referred to as the food basket of southern Nigeria. The city has been a leading producer of rice, yams, and cassava for decades. The soil is texturally clay loam with gravelly sub-soil in some locations, especially the upland areas adjacent to the lowland areas. Abakaliki soil is believed to be among the best for rice production in Nigeria, especially for the popular "Abakaliki Rice." This has attracted partnerships among the Abakaliki Rice Farmers Association, the Abakaliki Rice Mill Owners Association, the Ebonyi State government, and some international agencies like U.S. Agency for International Development (USAID) and United Nations Industrial Development Organization (UNIDO) to improve rice production in the state. The rainfall pattern is bimodal, with peaks in the months of July and September. Annual rainfall stabilizes around May and stops around October, leaving a dry period between November and April.

METHODOLOGY

I. Sampling and Data Analysis

A sample of 124 sawah rice farmers was selected randomly from a list of rice farmers farming at the sites. Data used in this study were collected from October 2009 to January 2011 in all the sawah sites in Nigeria. The availability of inland valleys is a prerequisite for the adoption of sawah rice production technology. Farmers were selected based on their participation in sawah rice production. Data used in this study were collected in all the sites using interview guide. In addition to the interview guide, discussions were held with randomly selected farmers and key informants, including community leaders. These discussions helped to provide detailed information, especially about conflicts and conflict management, topics perceived as "delicate" by farmers. The nature of the land rental was determined by whether the tenant farmer was paying money (cash) for the use of the land or giving the landlord part of his/her farming proceeds (paddy) in kind or both. The amount paid for rent and the quantity of the paddy given to the landlord were also recorded. Rights to the land were categorized as the right to use, right to control, and right to transfer land. The yield was determined by measur-

Table 1. Socioeconomic characteristics of respondents

Attribute	Definition	Distribution
Sex	Sex of the respondents as male or female	Male (98.9%); Female (1.1%)
Age	Actual age of respondents	Average age = 42.3
Educational level	Highest educational attainment	Quranic (62.7%); Secondary (18.10%); Primary (12.0%); No formal Education (3.6%); Tertiary (3.6%)
Ethnicity	Ethnic affiliation	Nupe (73.4%); Lada (9.7%); Hausa (8.1%); Igbo (7.3%); Yoruba (1.6%)
Household size	Number of persons in the household	Average = 14 persons
Yield	Yield from the sawah farm	Average = 2.5 ton
Farm size	Area of land used for sawah	Average = 0.53 ha
Income	Income generated from sawah production	Average = ₦151,110 (US$1,042)
Years of experience in rice production	Number of years spent in rice farming	Average = 32 years
Years of experience in sawah rice production	Number of years spent in Sawah rice farming	Average = 6 years

ing the harvested products from the cultivated sawah area in kilograms. Farm size was measured in hectares using a Geographic Positioning System instrument (GPS). Descriptive statistics were used to analyze the socioeconomic and farming characteristics of farmers. *T*-test was used to determine significant differences in the yields and farm sizes of landlords and tenant farmers. As shown in Table 1, sawah rice farmers are predominantly male with average age of 42.3 years; few elderly farmers are involved in sawah farming. The majority have Quranic education, and are Nupe, a tribal people from north-central Nigeria. The household size of farmers ranged between one and 40, with a mean of 14. These household members may serve as source of labor that can be used on the farm. The mean size of farms using the sawah system is 0.53 ha; however, the majority of farmers have farms consisting of less than 0.5 ha and have a mean income of ₦151,110 (US$1,042 with an exchange rate of ₦145 to US$1 at the time of data collection in 2009). The mean number of years of experience with rice production and the mean number of years of experience with rice sawah production (adoption of sawah system of rice production) were 32 and 6, respectively. Thus, the respondents have accumulated enough experience with rice production to be capable of using sawah technology. Additionally, their experience with rice production is of great importance when developing the skills required for sawah rice production. The mean yield of rice from the sawah fields is 2.5 ton, with a majority of farmers having a yield of less than 2 ton. The yield corresponds with the size of the field. The yield of sawah fields among the sawah farmers is 4.65 ton/ha.

RESULTS AND DISCUSSION

I. Land Rental in Sawah-based Rice Production

Two main rental arrangements were identified in the study area: (a) land-for-paddy, and (b) land-for-cash. In the case of land-for-paddy, both landlord and tenant agree that the tenant will give some of his yield to the landlord after the harvest as rent. In the case of land-for-cash, the tenant pays an agreed amount of money to the landlord on an annual basis before using the land. The most common arrangement in the study site was land-for-paddy. As shown in Table 2, 76.1% of rental agreements were under the land-for-paddy system. According to this arrangement, the tenant farmer gives 5% of the total rice yield to the landlord. As reported by Robertson (1987), high risk, price fluctuations, and the subsistence character of non-capitalized agricultural production in Africa are significant and important reasons for entering into this type of arrangement. The landlord and tenant share both the benefits and risks involved in the use of the land.

With respect to the land-for-cash system, the average annual rent at the study sites was ₦12,000 $ha^{-1}year^{-1}$ (US$82 $ha^{-1}year^{-1}$). Rent is based on local knowledge of land supply/demand interactions over time and experiences with the production cost/return structure among the people. The rent is fixed in advance in the form of a verbal agreement between landlord and tenant. This arrangement is considered to be mutually beneficial for both landlord and tenant, and the agreement is believed to be fair to both parties. The duration of the agreement ranges from 2 to 15 years, and payment is made on an annual basis. As part of the agreement, landlords reserve the right to take over the land from the tenants in situations of refusal to pay rent, subletting land to other tenants, failure to renew the agreement on expiration, non-observance of local customs, and social abuse in the community. Special cases occur in which tenants pay the rent in cash before using the land and also give part of their yield to the landlords after the harvest. However, this arrangement is based on mutual agreement between landlord and tenant.

The release of land in the study locations to tenants by landlords is based predominantly on ethnicity, social status, and relationships. Landlords prefer to give land to farmers from the same ethnic group but sometimes will rent to farmers

Table 2. Land rental in sawah-based rice production

Type of rent	Frequency (%)	Payment/cost	Nature of agreement	Security of tenancy
Land-for-cash	2 (4.4)	₦12,000 ha^{-1} $year^{-1}$	Verbal	Not secured
Land-for-paddy	35 (76.1)	5% of total yield	Verbal	Not secured
Both (Land-for-cash and land-for-paddy)	9 (19.6)	₦12,000 ha^{-1} $year^{-1}$ at the beginning of year and 5% of total yield on harvest	Verbal	Not secured

from another ethnic group based on their social relationships and social status. According to the respondents, this practice is intended to minimize the occurrence of conflicts resulting from rental arrangements. Other factors that contributed to the decision between landlord and tenant to enter into tenancy agreements include labor supply opportunities, access to resources and inputs, and risk (Lastarria-Cornhiel & Melmed-Sanjak, 1999).

II. Land Rights for Landlords and Tenants Involved in Sawah-based Rice Production

The land rights system examined in this study does not provide free access to the land in the study locations. All lands are designated based on the communal system (Table 3) and are allocated to individual owners, who then have use of, control over, and transfer rights related to the land (Table 4). Thus, control over the land rests solely with the landlords. They decide the size of the land to be cultivated by tenants and may prevent tenants from expanding the size of their sawah farms. Transfer rights related to the land (from one person or generation to another) also rest solely with the landlords, allowing them to rent it out, share its usage, leave it fallow, bequeath it, or sell it. However, these land-use decisions require consultation with family members who may share inherited ownership of the land. This consultation is necessary to avoid conflicts over land use and maintain appropriate communal land designations and rights. Table 4 presents a summary of situations pertaining to land rights at the study sites. Landlords can give parcels of his/her land to a tenant only after due consultation with family heads and other family members.

This study identified four categories of tenants: (a) farmers with migrant lineage who, irrespective of length of stay in the location, do not have inheritance

Table 3. Sources of land in the study area

Variable	Measurement/definition	Percentage
Land tenure	Private	0
	Customary	100
	State	0
Sources of land*	Own**	12.1
	Rent	37.1
	Inherit	71.8
	Gift	2.1
	Sharecrop	1.6
Factors influencing land acquisition	Ethnicity	82.4
	Social relationship	63.9
	Social status	15.1
	Financial factors	0.8

*Multiple responses provided; ** Land tenure: Some farmers said that they did not inherit the land they are using and also do not rent the land. However, they proved that they had been using the land for so many years that it cannot be taken from them. Because it was not possible to determine the sources of their land, the authors decided to classify their land as owned to distinguish them from those who inherited their land.

Table 4. Land rights of landlords and tenants

Rights	Landlords	Tenant farmers
Right to use: •Right to use the land for grazing •Right to use the land for growing subsistence crops •Right to use the land for gathering minor forestry products •Right to choose type of farming •Right to leave the land fallow	No limitations	Limited to sawah rice production
Right to control •Right to make decisions about how the land should be used	No limitations	No right to control land use. Land can be used only for sawah production
Right to transfer •Right to convey the land to others through intra-community reallocations •Right to give out one's land •Right to hire out one's land and to re-allocate use and control rights •Right to sell or mortgage the land	Consultation with family members	No right to transfer
Security of land	Secured	Not secured
Who makes land-use decisions?	Self, in consultation with family members	Landlord
Accessing lowland and upland areas: Do the methods for accessing the lowlands for rice production differ from those for accessing the uplands?	Both uplands and lowlands are accessed by inheritance	Both are accessed by rental but the lowlands now attracts more attention and competition than does the uplands

rights to community land; (b) farmers whose land was fallow during the cropping season; (c) farmers who have lost their land to land degradation (mainly erosion); and (d) farmers without access to lowland suitable for sawah production (in this case for rice production). These groups of farmers have similar rights to land according to the communal regime. Land tenants have only the right to use the land, and restrictions are imposed by landlords, local customs, the customary tenure regime, and other social factors. These restrictions have become the norms governing land rental at most sites and therefore guide agreements between landlords and land tenants.

In most cases, tenants are restricted to growing rice and several arable crops on sawah land, whereas the landlord is free to cultivate any crop. The tenant is not allowed to transfer land to another tenant and is also prevented from erecting certain structures, such as farmhouses and storehouses for harvested grains, on the land. Tenants are restricted from leaving the land fallow and are not allowed to grow permanent crops on the land. A limit is also imposed on how the tenant can use the land for the grazing of their small ruminants after harvesting their rice. The short period of tenancy sometimes prevents tenants from constructing structures that are needed to create the sawah plot. Based on observations made

at the study sites, land use among tenants is not secure, and the landlord may decide to take over land at anytime so desired.

Since the introduction of the sawah method of rice production and the drastic increase in the yield of farmers, the process by which land is accessed for this purpose has become more competitive among farmers. Landlords now rent larger sawah farming plots in upland than lowland areas. The control exerted by many landlords can be a source of conflict and, in many cases, is a source of insecurity for tenants. It also limits the participation of landless people in sawah rice production.

III. Land-related Constraints Faced by Tenant Farmers

As shown in Table 5, the major problems faced by tenant farmers in accessing land for sawah production are distance to farms, land availability, short duration of tenancy periods, acquisition of land, and interference from other landlord farmers. Farmers travel as far as 15 km from their houses in search of suitable sites for sawah development due to the nature of land ownership in the study area. For this reason Oladele & Wakatsuki (2010) suggested that constraints related to wasted time and traveling long distances to rice fields be addressed to make more time available for farm work. Most roads leading to farmers' fields are in a deplorable condition, which renders the transport of inputs and yields in and out of farms difficult. The period of tenancy and interference from landlords sometimes create problems for tenant farmers who rent land.

Due to the increase in yields from sawah rice fields compared with those following traditional methods, from 1.5 ton/ha (WARDA, 1999) to 4.65 ton/ha based on the results of this study, most landlords have resorted to either increasing the rent on their land, which has had a considerable effect on tenants, or refusing to renew the tenancy (Oladele & Wakatsuki, 2010). The difficulties faced by farmers related to acquiring land for sawah have become associated with the use of sawah technology. Additionally, farmers have cited ineffective governmental policies on land as a constraint. The 1978 Land Use Decree in Nigeria, instead of solving farmers' problems, has compounded the stress they experience as they try

Table 5. Land-related constraints and severity of constraints

Constraints	Very severe (%)*	Severe (%)	Somewhat severe (%)
Accessibility problems due to long walking distance	31.9	20.2	47.9
Scarcity of sawah plots	21.0	20.2	58.8
Disputes and conflicts	0.0	0.0	100.0
Tenancy payments	0.0	0.0	100.0
Duration of tenancy	0.0	6.7	93.3
Interference from landlords	8.4	0.0	91.6
Ineffective government policies	0.0	0.8	99.2

*Likert Scale: Very severe = 3; Severe = 2; Somewhat severe = 1. The Likert scale is a scale used for the assessment of the severity of the constraints.

to secure land for agriculture. Indeed, today less land is available to the ordinary Nigerian than it was during the period prior to the Decree, thus rendering most citizens to a state of perpetual tenancy (Olayiwola & Adeleye, 2006).

IV. Conflict Management in Landlord-Tenant Relationships in the Context of Sawah Development

A qualitative survey of conflict-management approaches was conducted at the sawah sites. Case studies of the nature of conflicts, causes of conflicts, and conflict-resolution methods adopted are discussed in this section with the aim of studying the present to prepare for the future of sawah development in Nigeria.

As shown in Table 6, land conflicts were recorded in the Ilorin, Bida, and Abuja sawah sites. The conflicts involved inter-communal (involving villages) and landlord-tenant disputes over the land used for sawah rice production. Conflicts among the parties involved were caused by the lack of proper demarcation between communities (villages) and landlords' attempts to enforce their land rights on their tenants. In Kwara State, two villages, A and E,[(1)] share a common boundary with a large expanse of lowland. A parcel of land given to a tenant by a landlord in village A for sawah cultivation in the 2008 cropping season led to an inter-communal conflict. Villages A and E both claimed ownership of the land. As this persisted, the tenant farmer was not allowed to farm the land. Efforts to settle the matter proved unsuccessful. Hence, the land was left uncultivated for two seasons, 2008 and 2009, after the initial investment by the farmer in bund construction, canal construction, and farm layout. A similar inter-communal type of conflict occurred between villages M and J in Bida, Niger State, where native farmers from the villages claimed ownership and control over a parcel of land suitable for sawah rice production. The competing claims of land ownership led to a conflict between the two neighboring villages. Due to this conflict, no farmer was allowed to use the land. In village B of the Federal Capital Territory in Abuja, the land conflict involved the landlord and tenant. The conflict erupted when the landlord farmer decided to take over the land because the tenant obtained a higher yield from the sawah plot. Because the period of tenancy had not expired, the refusal of the tenant to vacate the land led to conflict between the two parties.

Table 6. Land-related conflict management at the research sites

Location	Occurrence of conflict	Form of conflict	Causes of conflict	Management and resolution
Akure	No	None	None	None
Ilorin	Yes	Inter-communal	Land demarcation	Dialogue
Bida	Yes	Inter-communal	Land demarcation	Litigation
Zaria	No	None	None	None
Abakaliki	No	None	None	None
Abuja	Yes	Landlord-Tenant	Right enforcement and tenancy dispute	Third-party intervention

Attempts to resolve these conflicts by communities have involved dialogue, litigation, and mediation through a third party. Mediation is a voluntary, negotiation-based process in which the parties involved in a current or potential dispute meet with the assistance of a neutral and impartial mediator for collaborative problem solving and consensus building with the goal of achieving a mutually acceptable resolution (Andrew, 2003). As a result of dialogue, the conflict at villages A and E was resolved with the intervention of the Ilorin sawah management team, who operated with the assistance of the village extension agents and the traditional rulers of the villages. Participation of the involved parties in the two villages was sought, and the conflict was resolved amicably. Both communities agreed that the farmer should be allowed to use the land for sawah rice cultivation. It must be noted, however, that the land ownership had not yet been determined at the time of data collection. In the case of village B, the intervention of traditional leaders assisted in resolving the conflict. After the intervention, the landlord farmer willingly released the land to the tenant. In the case of villages M and J in Bida, the parties employed police litigation and the conflict had yet been resolved at the time of data collection. Ownership of the land will be determined by the law court.

Based on our observations, it appears that the dispute settlements imposed on parties or negotiated within the shadow of the law can elongate the conflict period and may not eliminate the real sources of the dispute. This process of conflict resolution may actually disrupt relationships rather than solve problems. Disputes are resolved only when the parties themselves reach what they consider to be an acceptable resolution and the settlement of issues is based on a consensus among all parties. Conflicts over land may contribute to decreased agricultural production and land insecurity. Deininger & Castagnini (2006) have shown that the outputs of plots affected by conflicts are clearly lower than are those of plots not affected by conflicts. Land conflicts are the most evident social manifestations of land insecurity (Idowu, 2006), and land insecurity is a major contributing factor to extreme poverty and social instability, including conflicts and civil unrest, rural migration, land abandonment, and poor economic growth (FAO, 2002). The estimated magnitude of productivity losses due to land conflict, between 5% and 11%, is very large, albeit consistent with descriptive evidence that points to a number of ways in which land conflicts lead to highly disruptive economic consequences (Deininger & Castagnini, 2006).

V. Significant Differences in the Yields and Farm Sizes of Landlord and Tenant Farmers

We found a significant difference (t = 3.424) in the farm sizes of landlords and tenants (Table 7 and Fig. 2), implying that land rights determine the farm size at sawah sites in this country. This result further implies that the access of tenants to land is not equal to that of landlords. The kind of rights and tenure possessed by an individual determines control over land, including the amount of the land that can be used for agricultural production. This, in turn, can produce disparities in agricultural income. Jayne et al. (2003) found serious disparities in income and land allocation in five countries in Africa. Their research found that 25% of rural agricultural households in Ethiopia, Rwanda, Kenya, Mozambique,

Table 7. Difference in the yields and farm sizes of landlord and tenant farmers

Variables	Landlord farmers ($N = 89$)	Tenant farmers ($N = 46$)	t-value
Farm size (ha)*	41.50	15.84	3.424
Yield (kg)*	216,680	69,560	3.167

*significant at $P < 0.05$.

and Zambia were virtually landless, having access to 0.1 ha per capita or less in each country. This situation could also affect the adoption of sawah technology in Nigeria.

Additional results show significant differences ($t = 3.167$) in the yields of landlords and tenants. Although the implications of this were not subjected to further econometric tests, the preliminary interpretation is that landlords have a significant influence that grants them access to certain important information that can be useful in improving production practices. The opportunity to control land also places landowners at an advantage in terms of receiving regular advice from agricultural extension officers. Land can be used as social capital and can constitute an economic advantage in agricultural production. The security of tenure can also provide sufficient insurance against farm-related risks, which, in turn, are related to increased investment in farms over the medium- and long-terms. Sawah development involves the construction of structures such as bunds, canals, and dykes, which require land with secure tenure (either permanent or for a reasonable number of years) for the farmers to break even on the investment.

Hayes et al. (1997) reported that within the customary tenure system, more individualized rights are associated with a higher propensity to make investments; this, in turn, had a positive effect on yield. Lack of security with regard to land as a result of renting hinders tenants from investing in such structures and leads to reductions in the yields from sawah farms. The lack of secure ownership rights to land reduces farmers' incentives to invest in yield-increasing inputs and to put land to its most productive use (Johnson, 1972; Besley, 1995; Hayes et al., 1997; Feder et al., 1988; Roth & Dwight, 1998). A study conducted in Thailand also showed that secured lands are characterized by higher investment demand and input intensity and, as a result, yield was higher on secured lands than on lands without titles (Feder et al., 1988). Place & Hazell (1993) reported that parcels of secured land have received more drainage or liming improvements than those with no secured rights; they noted that these improvements increase farm output. In Niger, Gavian & Fafchamps (1996) reported that tenure insecurity stimulates farmers to divert the scarce manure resources used for improving farm yields from less secure or borrowed land to more secure or owned land whenever they can. A study of the effects of land tenure on the production behavior of farmers in rural China conducted by Li et al. (1998) showed that the right to use land for long (or indefinite) periods of time encourages the use of land-saving investments such as organic manure, but that the use of short-term inputs was not affected by such rights.

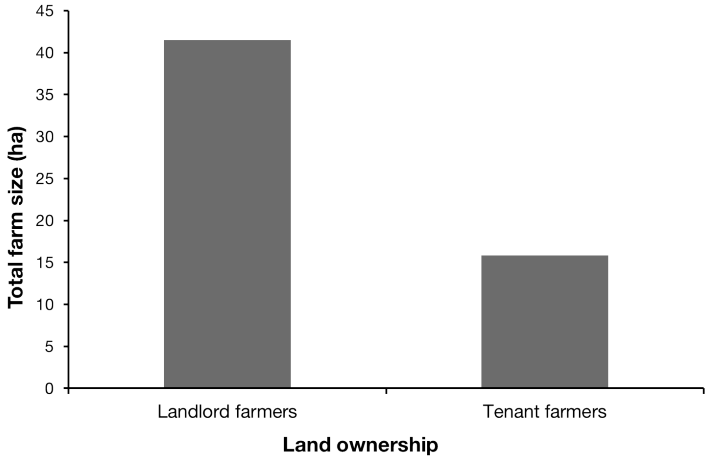

Fig. 2. Size of farms at sawah sites.

CONCLUSIONS AND RECOMMENDATIONS

The land rights of landlord and tenant farmers in sawah sites in Nigeria are characterized by disparities between the two parties. The rights and control over land by tenants are limited and constrain attempts to improve production and invest in farms. Access to and control over land also places landowners at an advantage in the adoption of any technology. As sawah technology promises higher yields for rice farmers in Nigeria, it also requires substantial investment in the construction of canals, bunds, and dykes, which only the landlords have the right to do. This calls for an institutional approach to ensuring more secure rights and longer tenancies on land for tenants, which would allow for growth and investment in the land. Access to land for tenants will enhance their participation in sawah and increase their chances of increasing their income and emerging from poverty. Investment in more durable inputs such as power tillers, dykes, and irrigation canals will decrease if land is not secured. Therefore, tenants and landless people need more secure access to land to provide them with opportunities to manage their sawah plots so that they will have higher yields. Farmers whose land security is not guaranteed would be more inclined towards short-term investments in land, and the sustainability of sawah would not be expected to be their priority. More social capital is also needed because the land rights and the rental system at the study sites are entrenched in the communal tenure arrangement. Expanding the sphere of social capital between the landless and the landowners could ensure productive negotiations and create effective communication. This will also help to reduce conflict.

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NOTES

(1) A, E, M, J, and B are not the real names; given the sensitive nature of land conflicts and the possibility that further research will be conducted in these villages, the authors decided to use letters in place of names.

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